

SELF-LIGATING ORTHODONTIC APPLIANCE

Claims

The invention is hereby claimed as follows:

1. An orthodontic appliance for receiving an archwire comprising a base, at least one jaw member pivotally and movably mounted on the base between open and closed positions, and spring means for coacting with the jaw to selectively lock the jaw into closed position and define with the base an archwire slot to lock the archwire to the bracket or in open position to allow the archwire to be connected to or removed from the bracket.
2. The appliance of Claim 1, which includes a pair of jaw members.
3. An orthodontic appliance for receiving an archwire comprising a base, a pair of jaw members pivotally and movably mounted on the base between open and closed positions, and spring means for coacting with the jaws to selectively lock the

jaws into closed position and define with the base an archwire slot to lock the archwire to the bracket or in open position to allow the archwire to be connected to or removed from the bracket.

4. A self-ligating orthodontic bracket comprising:

a base mountable on a tooth,

a pair of jaws defining an archwire slot,

hinge means pivotally and movably hinging the jaws to the base such that the jaws are operable between an open position allowing insertion or removal of an archwire and a closed position for retaining the archwire,

and spring means engaging said jaws and operable for maintaining said jaws in said open or closed positions.

5. The bracket of Claim 4, wherein means is provided on the base and jaws for locking the jaws in closed position.

6. The bracket of Claim 5, wherein said locking means includes interengaging teeth on said base and jaws.

7. The bracket of Claim 6, wherein opening of the jaws by movement of said spring requires movement of the jaws to disengage the teeth and then pivoting of the jaws to separate them from each other such that an archwire may be inserted between or removed from the jaws.

8. The bracket of Claim 4, wherein the jaws include walls to receive a rectangular in cross section archwire so that a torquing force can be exerted on the bracket.

9. The bracket of Claim 4, which further includes a plastic mounting pad molded to the base.

10. The bracket of Claim 4, wherein said jaws are substantially L-shaped, and shaped to receive a rectangular archwire so that a torquing force may be applied to the bracket by the archwire.

11. The bracket of Claim 4, wherein the bracket is metal.

12. The bracket of Claim 4, wherein the bracket is ceramic.

13. The bracket of Claim 4, wherein the bracket is plastic.

14. The bracket of Claim 4, wherein said spring means includes a substantially flat spring member extending between the jaws at the hinge means.

15. The bracket of Claim 4, wherein said hinge means includes lugs on the base meshing with lugs on the jaws, and hinge pins extending through said lugs.

16. The bracket of Claim 15, wherein said hinge means further includes pin openings in the base lugs, and pin slots in said jaw lugs allowing the jaws to move and pivot on the hinge pin.

17. The bracket of Claim 16, wherein said pin slots in said jaw lugs are substantially kidney shaped and oriented so as to allow the jaws to move between lock and unlock positions, where in the unlock position, the jaws may go to said open position.

18. A method of closing a self-ligating bracket and retaining an archwire on said self-ligating bracket wherein the bracket includes a base, a pair of jaws slidably and pivotally hinged to the base and movable between open and closed positions, and a spring member connected to the jaws, said method comprising the steps of:

placing the archwire against said spring member when the jaws are in open position, and

applying an inward force to the archwire to drive the jaws pivotally and slidably on the base to close the jaw members and lock the archwire to the bracket.

19. The method of opening a self-ligating bracket and releasing an archwire from said bracket, wherein the bracket includes a base, a pair of jaws slidably and pivotally hinged to the base and movable between open and closed positions, and a spring member connected to the jaws, said method comprising the steps of:

engaging said spring member with an instrument, and

applying an outward force to the spring member to drive the jaws slidably and pivotally into open position.